<u>IN THE CLAIMS</u>

The following is a complete listing of the claims. This listing replaces all earlier versions and listings of the claims.

Claim 1 (currently amended): A method of generating a pixel image, the image [[to be]] <u>being</u> formed by rendering and compositing ~~at least~~ a plurality of graphical objects <u>according to an expression tree representing a compositing expression for the image, the expression tree comprising a plurality of nodes each representing one of the objects or an operation for combining objects or results of other operations</u>, each <u>of the</u> objects ~~object~~ comprising a predetermined outline <u>and one or more attributes associated therewith</u>, said method comprising <u>the steps of</u>:

~~a dividing step of dividing a space in which the predetermined outlines are defined into a plurality of~~ <u>for at least one object node, forming one or more mutually exclusive</u> regions, each <u>of the mutually exclusive regions</u> [[region]] being defined by ~~at least one~~ <u>a</u> region outline substantially following at least [[one]] <u>part</u> of the predetermined outlines ~~or parts thereof~~ <u>of the object</u>, each <u>of the</u> region ~~outline~~ <u>outlines</u> being formed [[by]] <u>from</u> horizontal and vertical segments~~, the horizontal and vertical segments being selected from corresponding horizontal and vertical segments~~ of a virtual grid encompassing [[the]] <u>a</u> space ~~such that at least one of the region outlines comprises at least one concavity depending on the predetermined outlines~~ <u>in which the predetermined outlines are defined</u>, [[and]] the virtual grid comprising a plurality of cells, each cell comprising a plurality of pixels <u>both horizontally and vertically there within, wherein each of the mutually exclusive regions have one or more attributes associated therewith depending on the attributes associated with the object</u> ~~such that a spacing between the~~

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~~horizontal or vertical segments of the virtual grid is greater than that between adjacent~~

~~pixels of a corresponding pixel grid;~~

~~a manipulation step of manipulating the region outlines to determine~~ for at least one operation node, forming a plurality of further mutually exclusive regions, each of the further mutually exclusive regions being formed from the horizontal and vertical segments corresponding to the mutually exclusive regions of one or more object nodes associated with the operation node, each of the further mutually exclusive regions having one or more further attributes associated therewith, wherein the value of at least one of the further attributes is dependent on the values of the attributes associated with a plurality of the mutually exclusive regions of the one or more object nodes, and wherein one or more of the attributes associated with the plurality of mutually exclusive regions is unused in determining the value of the at least one further attribute, thereby optimizing the determination of the at least one further attribute ~~being defined by corresponding ones of the selected horizontal and vertical segments of the virtual grid, and each further region having a corresponding compositing expression;~~

~~a classification step of classifying the further regions determined in said manipulation step according to at least one attribute of any one or more of the graphical objects which substantially fall within the further regions;~~

~~a modification step of modifying each corresponding compositing expression according to a classification of each further region determined in said manipulation step to form an optimized compositing expression for each further region compared to the corresponding compositing expression, the corresponding compositing expressions being optimized by eliminating one or more objects within the further regions~~

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~~from one or more of the corresponding expressions, depending on the classifications~~

~~assigned in said classification step, while maintaining the image to be generated;~~ and

for at least one of the further mutually exclusive regions,

determining pixel data from the further attributes with the at least one further mutually

exclusive region in order to generate ~~a generation step of generating~~ the image ~~by~~

~~compositing the plurality of graphical objects using each of the compositing expressions~~

~~optimized in said modification step~~.

Claim 2 (currently amended): A method according to claim 1, wherein the

one or more attributes is any one or more of ~~attribute is selected in said classification step~~

~~from a group consisting of~~ color, opacity and object outline.

Claim 3 (currently amended): A method according to claim 1, wherein

~~manipulating~~ said step of forming a plurality of further mutually exclusive ~~the region~~

~~outlines in said manipulating step~~ regions includes applying set operations to the mutually

exclusive regions.

Claim 4 (previously presented): A method according to claim 3, wherein

the set operations include difference and/or intersection operations.

Claim 5 (previously presented): A method according claim 1, wherein the

virtual grid is regularly spaced.

Claim 6 (previously presented): A method according to claim 1, wherein the virtual grid is irregularly spaced.

Claims 7 and 8 (canceled)

Claim 9 (previously presented): A method according to claim 1, further comprising a step of storing a flag to indicate whether data of an object is opaque or ordinary.

Claim 10 (currently amended): A method according to claim 9, ~~wherein said modification step optimizes~~ further comprising a step of optimizing the compositing expression based on a value of the flag for contributing objects.

Claim 11 (currently amended): A method according to claim 1, wherein ~~said modification step operates such that~~ a wholly opaque object in one of the mutually exclusive ~~region~~ regions acts to eliminate one or more objects within a corresponding one or more of the further mutually exclusive ~~region~~ regions from the ~~compositing expressions~~ determination of pixel data in said determining step for a corresponding one or more of the further mutually exclusive regions.

Claim 12 (currently amended): A method according to claim 1, wherein ~~said modification step operates such that~~ a wholly transparent object in one of the mutually exclusive ~~region~~ regions eliminates at least itself from the ~~compositing expression~~

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determination of pixel data in said determining step for a corresponding one or more of the further mutually exclusive regions.

Claim 13 (canceled)

Claim 14 (currently amended): A method of generating a pixel image, the image ~~to be~~ being formed by rendering and compositing ~~at least~~ a plurality of graphical objects according to an expression tree representing a compositing expression for the image, the expression tree comprising a plurality of nodes each representing one of the objects or an operation for combining objects or results of other operations, each [[object]] of the objects comprising a predetermined outline and one or more attributes associated therewith, said method comprising the steps of:

~~a dividing step of dividing a space in which the predetermined outlines are defined into a plurality of~~ for at least one object node, forming one or more mutually exclusive regions substantially within the object represented by the node, ~~each region~~ one of the regions being defined by at least two region outlines substantially following at least [[one]] part of the predetermined outlines ~~or parts thereof~~ of the object, each of the region ~~outline~~ outlines being formed [[by]] from horizontal and vertical segments~~, said horizontal and vertical segments being selected from corresponding horizontal and vertical segments or~~ of a virtual grid encompassing a space in which the predetermined outlines are defined ~~such that at least one of the region outlines comprises at least one concavity depending on the predetermined outlines~~, [[one]] two of the at least two region outlines for a particular object being arranged on either side of the predetermined

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outline for the particular object such that [[each]] the object comprises [[three]] at least two

corresponding mutually exclusive regions, wherein ~~each region has a corresponding~~

~~compositing expression and wherein~~ the virtual grid comprises a plurality of cells, each cell

comprising a plurality of pixels both horizontally and vertically there within, and wherein

each of the mutually exclusive regions has one or more attributes associated therewith

depending on the attributes associated with the object ~~such that a spacing between adjacent~~

~~horizontal or vertical segments or the virtual grid is greater than that between adjacent~~

~~pixels of a corresponding pixel grid;~~

      ~~a classification step of classifying the regions according to at least~~

~~one attribute of any one or more of the graphical objects which substantially fall within the~~

~~regions~~ for at least one operation node, forming a plurality of further mutually exclusive

regions, each of the further mutually exclusive regions being formed from the horizontal

and vertical segments corresponding to the mutually exclusive regions of one or more

object nodes associated with the operation node, each of the further mutually exclusive

regions having one or more further attributes associated therewith, wherein the value of at

least one of the further attributes is dependent on the values of the attributes associated

with a plurality of the mutually exclusive regions of the one or more object nodes, and

wherein one or more of the attributes associated with the plurality of mutually exclusive

regions is unused in determining the value of the at least one further attribute, thereby

optimizing the determination of the at least one further attribute;

      ~~a modification step of modifying each corresponding compositing~~

~~expression according to a classification of each region to form an optimized compositing~~

~~expression for each region compared to the corresponding compositing expression, the~~

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~~corresponding compositing expressions being optimized by eliminating one or more~~

~~objects within the regions from one or more of the corresponding expressions, depending~~

~~on the classifications, while maintaining the image to be generated~~; and

<u>for at least one of the further mutually exclusive regions,</u>
<u>determining pixel data from the further attributes associated with the at least one further</u>
<u>mutually exclusive region in order to generate</u> ~~a generation step of generating~~ the image ~~by~~

~~compositing the plurality of graphical objects using each of the compositing expressions~~

~~optimized in said modification step~~.

Claim 15 (currently amended): A method according to claim 14, wherein

~~the attribute is selected in said classification step from a group consisting of~~ <u>one or more</u>

<u>attributes includes any one of</u> color, opacity [[and]] <u>or</u> object outline.

Claim 16 (previously presented): A method according to claim 14, wherein the virtual grid is regularly spaced.

Claim 17 (previously presented): A method according to claim 14, wherein the virtual grid is irregularly s spaced.

Claims 18 and 19 (canceled)

Claim 20 (previously presented): A method according to claim 14, further comprising a step of storing a flag to indicate whether data of an object is opaque or ordinary.

Claim 21 (currently amended): A method according to claim 20, ~~wherein said modification step optimizes~~ further comprising the step of optimizing the compositing expression based on a value of the flag for contributing objects.

Claim 22 (currently amended): A method according to claim 14, wherein ~~said modification step operates such that~~ a wholly opaque object in one of the ~~region~~ mutually exclusive regions acts to eliminate one or more objects within a corresponding one or more of the further ~~region~~ mutually exclusive regions from the ~~compositing expressions~~ determination of pixel data in said determining step for the corresponding ones of the further mutually exclusive regions.

Claim 23 (currently amended): A method according to claim 14, wherein ~~said modification step operates such that~~ a wholly transparent object in one of the ~~region~~ mutually exclusive regions eliminates at least itself from the ~~compositing expression~~ determination of pixel data in said determining step for a corresponding one or more of the further mutually exclusive regions.

Claim 24 (canceled)

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Claim 25 (currently amended): An apparatus for generating a pixel image, the image ~~to be~~ being formed by rendering and compositing ~~at least~~ a plurality of graphical objects according to an expression tree representing a compositing expression for the image, the expression tree comprising a plurality of nodes each representing one of the objects or an operation for combining objects or results of other operations, each ~~object~~ of the objects comprising a predetermined outline and one or more attributes associated therewith, said apparatus comprising:

~~dividing means for dividing a space in which the predetermined outlines are defined into a plurality of~~ mutually exclusive region forming means for forming one or more mutually exclusive regions, each ~~region~~ of the mutually exclusive regions being defined by ~~at least one~~ a region outline substantially following at least [[one]] part of the predetermined outlines ~~or parts thereof~~ of the object, each of the region ~~outline~~ outlines being formed [[by]] from horizontal and vertical segments, ~~said horizontal and vertical segments being selected from corresponding horizontal and vertical segments~~ of a virtual grid encompassing [[the]] a space in which the predetermined outlines are defined ~~such that at least one of the region outlines comprises at least one concavity depending on the predetermined outlines~~, the virtual grid comprising a plurality of cells, each cell comprising a plurality of pixels both horizontally and vertically there within, wherein each of the mutually exclusive regions has one or more attributes associated therewith depending on the attributes associated with the object ~~such that a spacing between adjacent horizontal or vertical segments of the virtual grid is greater than that between adjacent pixels of a corresponding pixel grid~~;

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~~manipulating means for manipulating the region outlines to~~ ~~determine~~ further region forming means for forming a plurality of further mutually exclusive regions for at least one operation node, each of the further mutually exclusive regions being formed from the horizontal and vertical segments corresponding to the mutually exclusive regions of one or more object nodes associated with the operation node, each of the further mutually exclusive regions having one or more further attributes associated therewith, wherein the value of at least one of the further attributes is dependent on the values of the attributes associated with a plurality of the mutually exclusive regions of the one or more object nodes, and wherein one or more of the attributes associated with the plurality of mutually exclusive regions is unused in determining the value of the at least one further attribute, thereby optimizing the determination of the at least one further attribute ~~being defined by corresponding ones of the selected horizontal and vertical segments of the virtual grid, each further region having a corresponding compositing expression;~~ and

~~classifying means for classifying the further regions determined by said manipulating means according to at least one attribute of any one or more of the graphical objects which substantially fall within the further regions;~~

~~modifying means for modifying each corresponding compositing expression according to a classification of each further region determined by said manipulating means to form an optimized compositing expression for each further region compared to the corresponding compositing expression, the corresponding compositing expressions being optimized by eliminating one or more objects within the further regions~~

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from one or more of the corresponding expressions, depending on the classifications assigned by said classifying means, while maintaining the image to be generated; and

generating means for determining pixel data from the further attributes associated with at least one further mutually exclusive region in order to generate generating the image by compositing the plurality of graphical objects using each of the compositing expressions optimized by said modifying means.

Claim 26 (currently amended): An apparatus according to claim 25, wherein the attribute one or more attributes is selected by said classifying means from a group consisting any one or more of color, opacity and object outline.

Claim 27 (currently amended): An apparatus according to claim 25, wherein manipulating the region outlines by said manipulating means includes applying set said further region forming means sets operations to the mutually exclusive regions.

Claim 28 (previously presented): An apparatus according to claim 27, wherein the set operations include difference and/or intersection operations.

Claim 29 (currently amended): An apparatus according to claim 25, wherein the virtual grid is regularly spaced [[and]].

Claim 30 (previously presented): An apparatus according to claim 25, wherein the virtual grid is irregularly spaced.

Claims 31 and 32 (canceled)

Claim 33 (currently amended): An apparatus according to claim 25, further comprising means for storing a flag to indicate whether data of an object is opaque or ordinary[[,]] .

Claim 34 (currently amended): An apparatus according to claim 33, ~~wherein said modifying means optimizes~~ further comprising means for optimizing the compositing expression based on a value of the flag for contributing objects.

Claim 35 (currently amended): An apparatus according to claim 25, wherein ~~said modifying means functions such that~~ a wholly opaque object in one of the mutually exclusive regions ~~region~~ acts to eliminate one or more objects within a corresponding one or more of the further ~~region~~ mutually exclusive regions from the ~~compositing expressions~~ determination of pixel data by said generating means for the corresponding ones of the further mutually exclusive regions.

Claim 36 (currently amended): An apparatus according to claim 25, wherein ~~said modifying means functions such that~~ a wholly transparent object in one of the ~~region~~ mutually exclusive regions eliminates at least itself from the ~~compositing expression~~ determination of pixel data by said generating means for a corresponding one or more of said further mutually exclusive regions.

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Claim 37 (canceled)

Claim 38 (currently amended): An apparatus for generating a pixel image, the image ~~to be~~ being formed by rendering and compositing ~~at least~~ a plurality of graphical objects according to an expression tree representing a compositing expression for the image, the expression tree comprising a plurality of nodes each representing one of the objects or an operation for combining objects or results of other operations, each ~~object~~ of the objects comprising a predetermined outline and one or more attributes associated therewith, said apparatus comprising:

~~dividing means for dividing a space in which the predetermined outlines are defined into a plurality of~~ mutually exclusive forming means for forming one or more mutually exclusive regions substantially within an object represented by at least one object node, ~~each region~~ one of the regions being defined by at least two region outlines substantially following at least [[one]] part of the predetermined outlines ~~or parts thereof~~ of the object, each of the region ~~outline~~ outlines being formed [[by]] from horizontal and vertical segments~~, said horizontal and vertical segments being selected from corresponding horizontal and vertical segments~~ of a virtual grid encompassing a space in which the predetermined outlines are defined ~~such that at least one of the region outlines comprises at least one concavity depending on the predetermined outlines~~, [[one]] two of the at least two region outlines for a particular object being arranged on either side of the predetermined outline for the particular object such that [[each]] the object comprises ~~three~~ at least two corresponding mutually exclusive regions, wherein ~~each region has a corresponding compositing expression and wherein~~ the virtual grid comprises a plurality of

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cells, each cell comprising a plurality of pixels <u>both horizontally and vertically there</u>

<u>within, and wherein each of the mutually exclusive regions has one or more attributes</u>

<u>associated therewith depending on the attributes associated with the object</u> ~~such that a~~

~~spacing between adjacent horizontal or vertical segments is greater than that between~~

~~adjacent pixels of a corresponding pixel grid;~~

~~classifying means for classifying the regions according to at least~~

~~one attribute of any one or more of the graphical objects which substantially fall within the~~

~~regions~~ <u>further region forming means for forming a plurality of further mutually exclusive</u>

<u>regions for at least one operation node, each of the further mutually exclusive regions being</u>

<u>formed from the horizontal and vertical segments corresponding to the mutually exclusive</u>

<u>regions of the one or more object nodes associated with the operation node, each of the</u>

<u>further mutually exclusive regions having one or more further attributes associated</u>

<u>therewith, wherein the value of at least one of the further attributes is dependent on the</u>

<u>values of the attributes associated with a plurality of the mutually exclusive regions of the</u>

<u>one or more object nodes, and wherein one or more of the attributes associated with the</u>

<u>plurality of mutually exclusive regions is unused in determining the value of the at least</u>

<u>one further attribute, thereby optimizing the determination of the at least one further</u>

<u>attribute;</u>

~~modifying means for modifying each corresponding compositing~~

~~expression according to a classification of each region to form an optimized compositing~~

~~expression for each region compared to the corresponding compositing expression, the~~

~~corresponding compositing expressions being optimized by eliminating one or more~~

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~~objects within the regions from one or more of the corresponding expressions, depending~~

~~on the classifications, while maintaining the image to be generated;~~ and

generation means for <u>determining pixel data from the further</u>

<u>attributes associated with at least one of the further mutually exclusive regions in order to</u>

<u>generate</u> ~~generating~~ the image ~~by compositing the plurality of graphical objects using each~~

~~of the compositing expressions optimized by said modifying means~~.

Claim 39 (currently amended): An apparatus according to claim 38,

wherein the ~~attribute is selected by said classifying means from a group consisting~~ <u>one or</u>

<u>more attributes comprises any one or more</u> of color, opacity and object outline.

Claim 40 (previously presented): An apparatus according to claim 38,

wherein the virtual grid is regularly spaced.

Claim 41 (previously presented): An apparatus according to claim 38,

wherein the virtual grid is irregularly spaced.

Claims 42 and 43 (canceled)

Claim 44 (previously presented): An apparatus according to claim 38,

further comprising means for storing a flag to indicate whether data of an object is opaque

or ordinary.

Claim 45 (currently amended): An apparatus according to claim 44, ~~wherein said modifying means optimizes~~ <u>further comprising means for optimizing</u> the compositing expression based on a value of the flag for contributing objects.

Claim 46 (currently amended): An apparatus according to claim 38, wherein ~~said modifying means functions such that~~ a wholly opaque object in <u>one of</u> the ~~region~~ <u>mutually exclusive regions</u> acts to eliminate one or more objects within <u>a</u> <u>corresponding one or more of</u> the further ~~region~~ <u>mutually exclusive regions</u> from the ~~compositing expressions~~ <u>the determination of pixel data by said generating means for the</u> <u>corresponding ones of the further mutually exclusive regions</u>.

Claim 47 (currently amended): An apparatus according to claim 38, wherein ~~said modifying means functions such that~~ a wholly transparent object in <u>one of</u> the ~~region~~ <u>mutually exclusive regions</u> eliminates at least itself from the ~~compositing expression~~ <u>determination of pixel data by said generating means for a corresponding one or more of</u> <u>the further mutually exclusive regions</u>.

Claim 48 (canceled)

Claim 49 (currently amended): A computer program product including a computer readable medium having a plurality of software modules for generating a pixel image, the image ~~to be~~ <u>being</u> formed by rendering and compositing ~~at least~~ a plurality of graphical objects <u>according to an expression tree representing a compositing expression for</u>

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the image, the expression tree comprising a plurality of nodes each representing one of the objects or an operation for combining objects or results of other operations, each ~~object~~ of the objects comprising a predetermined outline and one or more attributes associated therewith, said computer program product comprising:

~~a dividing module for dividing a space in which the predetermined outlines are defined into a plurality of~~ a mutually exclusive region forming module for forming one or more mutually exclusive regions, each ~~region~~ of the mutually exclusive regions being defined by ~~at least one~~ a region outline substantially following at least [[one]] part of the predetermined outlines ~~or parts thereof~~ of the object, each of the region ~~outline~~ outlines being formed [[by]] from horizontal and vertical segments, ~~the horizontal and vertical segments being selected from corresponding horizontal and vertical segments~~ of a virtual grid encompassing [[the]] a space in which the predetermined outlines are defined ~~such that at least one of the region outlines comprises at least one concavity depending on the predetermined outlines~~, the virtual grid comprising a plurality of cells, each cell comprising a plurality of pixels both horizontally and vertically there within, wherein each of the mutually exclusive regions has one or more attributes associated therewith depending on the attributes associated with the object ~~such that a spacing between adjacent horizontal or vertical segments of the virtual grid is greater than that between adjacent pixels of a corresponding pixel grid~~;

~~a manipulating module for manipulating the region outlines to determine~~ a further region forming module for forming a plurality of further mutually exclusive regions for at least one operation node, each of the further mutually exclusive regions being formed from the horizontal and vertical segments corresponding to the

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mutually exclusive regions of one or more object nodes associated with the operation node,

each of the further mutually exclusive regions having one or more further attributes

associated therewith, wherein the value of at least one of the further attributes is dependent

on the values of the attributes associated with a plurality of the mutually exclusive regions

of the one or more object nodes, and wherein one or more of the attributes associated with

the plurality of mutually exclusive regions is unused in determining the value of the at least

one further attribute, thereby optimizing the determination of the at least one further

attribute ~~being defined by corresponding ones of the selected horizontal and vertical~~

~~segments of the virtual grid and each further region having a corresponding compositing~~

~~expression;~~ and

> ~~a classifying module for classifying the further regions determined~~
> ~~by said manipulating module according to at least one attribute of any one or more of the~~
> ~~graphical objects which substantially fall within the further regions;~~

> ~~a modifying module for modifying each corresponding compositing~~
> ~~expression according to a classification of each further region determined by said~~
> ~~manipulating module to form an optimized compositing expression for each further region~~
> ~~compared to the corresponding compositing expression, the corresponding compositing~~
> ~~expressions being optimized by eliminating one or more objects within the further regions~~
> ~~from one or more of the corresponding expressions, depending on the classifications~~
> ~~assigned by said classifying module, while maintaining the image to be generated; and~~

> a generating module for determining pixel data from the further

attributes associated with at least one further mutually exclusive region in order to generate

generating the image ~~by compositing the plurality of graphical objects using each of the compositing expressions optimized by said modifying module~~.

Claim 50 (currently amended): A computer program product according to claim 49, wherein the ~~attribute is selected by said classifying means from a group consisting~~ one or more attributes is any one or more of color, opacity and object outline.

Claim 51 (currently amended): A computer program product according to claim 49, wherein ~~manipulating the region outlines by said manipulating module comprises applying~~ said further region forming module applies set operations to the regions.

Claim 52 (previously presented): A computer program product according to claim 51, wherein the set operations include difference and/or intersection operations.

Claim 53 (previously presented): A computer program product according to claim 49, wherein the virtual grid is regularly spaced.

Claim 54 (previously presented): A computer program product according to claim 49, wherein the virtual grid is irregularly spaced.

Claims 55 and 56 (canceled)

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Claim 57 (previously presented): A computer program product according to claim 49, further comprising a storing module for storing a flag to indicate whether data of an object is opaque or ordinary.

Claim 58 (currently amended): A computer program product according to claim 57, ~~wherein said modifying module optimizes~~ further comprising a module for optimizing the compositing expression based on a value of the flag for contributing objects.

Claim 59 (currently amended): A computer program product according to claim 49, wherein ~~said modifying module is configured such that~~ a wholly opaque object in one of the ~~region~~ mutually exclusive regions acts to eliminate one or more objects within a corresponding one or more of the further ~~region~~ mutually exclusive regions from the ~~compositing expressions~~ determination of pixel data by said generating module for the corresponding ones of the further mutually exclusive regions.

Claim 60 (currently amended): A computer program product according to claim 49, wherein ~~said modifying module is configured such that~~ a wholly transparent object in one of the ~~region~~ mutually exclusive regions eliminates at least itself from the ~~compositing expression~~ determination of pixel data by said generating module for a corresponding one or more of the further mutually exclusive regions.

Claim 61 (canceled)

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Claim 62 (currently amended): A computer program product including a computer readable medium having a plurality of software modules for generating a pixel image, the image ~~to be~~ being formed by rendering and compositing ~~at least~~ a plurality of graphical objects according to an expression tree representing a compositing expression for the image, the expression tree comprising a plurality of nodes each node representing one of the objects or an operation for combining operations or results of other operations, each ~~object~~ of the objects comprising a predetermined outline and one or more attributes associated therewith, said computer program product comprising:

~~a dividing module for dividing a space in which the predetermined outlines are defined into a plurality of~~ a mutually exclusive forming module for forming one or more mutually exclusive regions substantially within an object represented by at least one object node, ~~each region~~ one of the regions being defined by at least two region outlines substantially following at least [[one]] part of the predetermined outlines ~~or parts thereof~~ of the object, each ~~of the~~ region ~~outline~~ outlines being formed [[by]] from horizontal and vertical segments, ~~said horizontal and vertical segments being selected from corresponding horizontal and vertical segments~~ of a virtual grid encompassing a space in which the predetermined outlines are defined ~~such that at least one of the region outlines comprises at least once concavity depending on the predetermined outlines~~, [[one]] two of the at least two region outlines for a particular object being arranged on either side of the predetermined outline for the particular object such that [[each]] the object comprises ~~three~~ at least two corresponding mutually exclusive regions, wherein ~~each region has a corresponding compositing expression and wherein~~ the virtual grid comprises a plurality of cells, each cell comprising a plurality of pixels both

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horizontally and vertically there within, and wherein each of the mutually exclusive regions

has one or more attributes associated therewith depending on the attributes associated with

the object ~~such that a spacing between adjacent horizontal or vertical segments of the~~

~~virtual grid is greater than that between adjacent pixels of a corresponding pixel grid;~~

~~a classifying module for classifying the regions according to at least~~

~~one attribute of any one or more of the graphical objects which substantially fall within the~~

~~regions~~ a further region forming module for forming a plurality of further mutually

exclusive regions for at least one operation node, each of the further mutually exclusive

regions being formed from the horizontal and vertical segments corresponding to the

mutually exclusive regions of the one or more object nodes associated with the operation

node, each of the further mutually exclusive regions having one or more further attributes

associated therewith, wherein the value of at least one of the further attributes is dependent

on the values of the attributes associated with a plurality of the mutually exclusive regions

of the one or more object nodes, and wherein one or more of the attributes associated with

the plurality of mutually exclusive regions is unused in determining the value of the at least

one further attribute, thereby optimizing the determination of the at least one fruther

attribute; and

~~a modifying module for modifying each corresponding compositing~~

~~expression according to a classification of each region to form an optimized compositing~~

~~expression for each region compared to the corresponding compositing expression, the~~

~~corresponding compositing expressions being optimized by eliminating one or more~~

~~objects within the regions from one or more of the corresponding expressions, depending~~

~~on the classifications, while maintaining the image to be generated; and~~

a generation module for ~~determining~~ pixel data from the further attributes associated with at least one of the further mutually exclusive regions in order to generate ~~generating~~ the image ~~by compositing the plurality of graphical objects using each of the compositing expressions optimized by said modifying module~~.

Claim 63 (currently amended): A computer program product according to claim 62, wherein ~~the attribute is selected by said classifying module from a group consisting~~ one or more attributes comprises any one or more of color, opacity and object outline.

Claim 64 (previously presented): A computer program product according to claim 62, wherein the virtual grid is regularly spaced.

Claim 65 (previously presented): A computer program product according to claim 62, wherein the virtual grid is irregularly spaced.

Claims 66 and 67 (canceled)

Claim 68 (previously presented): A computer program product according to claim 62, further comprising a storing module for storing a flag to indicate whether data of an object is opaque or ordinary.

Claim 69 (currently amended): A computer program product according to claim 68, ~~wherein said modifying module optimizes~~ further comprising a module for optimizing the compositing expression based on a value of the flag for contributing objects.

Claim 70 (currently amended): A computer program product according to claim 62, wherein ~~said modifying module is configured such that~~ a wholly opaque object in one of the ~~region~~ mutually exclusive regions acts to eliminate one or more objects within a corresponding one or more of the further ~~region~~ mutually exclusive regions from the ~~compositing expressions~~ determination of pixel data by said generation module for the corresponding ones of the further mutually exclusive regions.

Claim 71 (currently amended): A computer program product according to claim 62, wherein ~~said modifying module is configured such that~~ a wholly transparent object in one of the ~~region~~ mutually exclusive regions eliminates at least itself from the ~~compositing expression~~ determination of pixel data by said generation module for a corresponding one or more of the further mutually exclusive regions.

Claims 72-77 (canceled)